REMOVAL SUMMARY REPORT
FOR THE
NORWOOD INDUSTRIES FUND LEAD REMOVAL
TOLEDO, LUCAS COUNTY, OHIO

Prepared for:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region V
Emergency Response Branch
9311 Groh Road
Grosse Ile, Michigan 48138

Prepared by:

WESTON SOLUTIONS, INC.
6779 Engle Road, Suite 1
Middleburg Heights, Ohio 44130

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WESTON START Project Manager	TJ McFarland
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January 29, 2010

Prepared by: _____ Date: January 29, 2010
Sean Kane, WESTON START Project Lead

Reviewed by: _____ Date: January 29, 2010
TJ McFarland, WESTON START Project Manager

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LIST OF ACRONYMS

°F	Degree Fahrenheit
µg/m^3	Microgram per cubic meter
%LEL	Percent of the lower explosive limit
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR	*Code of Federal Regulations*
DOT	U.S. Department of Transportation
ERRS	Emergency Response and Removal Services
HASP	Health and Safety Plan
HAZCAT	Hazard categorization
Lumex	Lumex RA 915+ mercury analyzer
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
Ohio EPA	Ohio Environmental Protection Agency
OSC	On-Scene Coordinator
PPE	Personal protective equipment
RAT	Rapid Assessment Tools
RCRA	Resource Conservation and Recovery Act
START	Superfund Technical Assessment and Response Team
Toledo DES	City of Toledo Division of Environmental Services
U.S. EPA	United States Environmental Protection Agency
VOC	Volatile organic compound
WESTON	Weston Solutions, Inc.
yd^3	Cubic yard

1. INTRODUCTION

On October 21, 2008, the United States Environmental Protection Agency (U.S. EPA) initiated a removal action at the Norwood Industries Site in Toledo, Lucas County, Ohio (the Site). The Site posed a threat to human health, welfare, and the environment due to uncontrolled hazardous wastes and chemicals in liquid and solid form at the Site. U.S. EPA tasked the Weston Solutions, Inc. (WESTON®), Superfund Technical Assessment and Response Team (START) to perform continuous hot zone and perimeter air monitoring; and supplemental air monitoring; oversight; and documentation of Site conditions and removal action activities. U.S. EPA tasked the Emergency Response and Removal Services (ERRS) contractor, Shaw Environmental, Inc., of New Orleans, Louisiana, to perform the removal action activities.

This removal summary report is organized into the following sections:

- **Introduction** – Provides a brief description of removal action objectives and the report organization;
- **Site Background** – Discusses the Site description and history;
- **Summary of Removal Activities** – Summarizes the removal action methods and procedures;
- **Summary of Waste Disposition** – Discusses waste stream, quantity, and disposal information;
- **Summary of Air Monitoring** – Discusses air monitoring during the removal action
- **Effectiveness of Removal Activities** – Discusses the effectiveness of the removal action activities at the Site
- **Difficulties Encountered** – Discusses Site conditions that delayed the site assessment and removal action activities; and
- **Conclusions and Recommendations** – Provides a summary of the removal action activities, recommendations for further Site activities, and considerations for future uses.

Figures are provided after the conclusions and recommendations section. Appendix A of this report provides photographic documentation of the Site conditions and removal action activities, and Appendix B provides a hazardous waste disposal summary.

2. SITE BACKGROUND

2.1 SITE DESCRIPTION

The Site is located at 1678 Norwood Avenue in Toledo, Lucas County, Ohio, in a mixed residential, commercial, and industrial area. The meridian coordinates for the Site are 41° 39' 19" North latitude and -83° 35' 0" West longitude. Figure 1 shows the Site location on a topographic map, and Figure 2 shows the Site location on an aerial photograph. The Site consists of an approximately 1-acre lot containing a two-story warehouse building constructed in 1917 with a total area of approximately 14,337 square feet. The warehouse building consists of a first floor, an office and storage space area on the second floor, and a basement. The warehouse building contains three rooms on the first floor. A fenced courtyard was located east of the warehouse building. Figure 3 shows the Site features and areas immediately surrounding the Site.

The Site is bounded to the north by an open lot and Oakwood Avenue, to the south by Norwood Avenue and industrial properties, to the east by Norfolk Southern railroad tracks and an open lot, and to the west by Clinton Street and an unnamed tire and automotive service facility (see Figures 2 and 3). According to area census data, there are six schools (five with outdoor playgrounds), three churches, and 851 individuals that live within 1/4 mile of the Site (Comparative Demographic and Housing Report for Greater Neighborhood Census Track 24.02, Ohio 43607). According to the Lucas County Local Emergency Planning Committee, at least two schools, four daycare facilities, and approximately 3,382 residences are located within a 1-mile radius of the Site.

2.2 SITE HISTORY

According to the Site property owner, Mr. Osswald, Norwood Industries stores, mixes, blends and repackages various materials, including Paracril (a synthetic nitrile rubber and plasticizer). Norwood Industries obtains empty drums and containers from a variety of sources and uses the drums and containers to repackage materials for relocating businesses and other clients. Mr. Osswald has owned and operated at the Site since 1977 and has accumulated various drums and small containers at the Site.

The City of Toledo Division of Environmental Services (Toledo DES), City of Toledo Fire Department, and Ohio Environmental Protection Agency (Ohio EPA) have conducted numerous inspections at the Site and were concerned about the volume, types, and storage conditions of containerized materials in the on-site warehouse building. On April 5, 2005, and May 19, 2005, the Toledo DES responded to complaints of a thick substance leaking through the lower western wall of the warehouse building and onto the soil. This material was determined to be Paracril that had spilled onto the floor during mixing and repackaging operations within the warehouse building. The Toledo DES inspected the warehouse building as a result of the initial complaint and required Mr. Osswald to repair the roof and walls along the west side of the warehouse building. The City of Toledo Fire Department placarded the building with a "Code Red" designation due to its general uncleanliness and the potential for a large fire posed by flammable materials.

From November 14, 2007, to November 30, 2007, the Toledo DES responded to complaints of illegal dumping and conducted inspections at the Site. During a Site inspection on November 30, 2007, the Toledo DES observed that the same Paracril material observed during the 2005 inspections was still leaking through the walls of the warehouse building onto the outside soil. On December 6, 2007, the Toledo DES submitted an information requests to Mr. Osswald regarding the Site. The compliance letter requested a list of materials stored at the Site and their respective quantities.

On December 19, 2007, the Toledo DES, City of Toledo Fire Department, and Ohio EPA conducted a joint inspection of the Site and found numerous drums and containers throughout the Site. In May 2008, the Ohio EPA requested assistance from the U.S. EPA Region 5 Emergency Response Branch in performing a removal action site assessment to evaluate potential threats to human health, welfare, and the environment posed by the Site.

On June 3, 2008, U.S. EPA On-Scene Coordinator (OSC) Jon Gulch and U.S. EPA representative Keith Lesniak and WESTON START members Lorie Ambrosio, Matthew Beer, and TJ McFarland mobilized to the Site to conduct a site assessment. Results of the site assessment, including reconnaissance documentation, a container inventory, laboratory analytical results, and conclusions and recommendations, are described in more detail in the site

assessment report for the Norwood Industries Site (prepared by WESTON and dated July 11, 2008).

Based on a review of site observations and container inventory, during the site assessment, the OSC directed WESTON START to collect five drum samples and one solid sample of the Paracril material on the floor of the warehouse building. Two waste liquid samples had flash points of 50 and 92 degrees Fahrenheit (˚F), respectively. These flash point results are below the regulatory limit for ignitability of 140 ˚F; therefore, the liquid wastes are considered hazardous materials for ignitability as defined by the Resource Conservation and Recovery Act (RCRA). Additionally, four liquid waste samples submitted for laboratory analysis indicated concentrations of volatile organic compounds (VOC) exceeding the laboratory reporting limits.

Based on the information gathered during the site assessment and the analytical results, WESTON START recommended the following:

- Conduct a time-critical removal action to address identified hazards and mitigate threats posed by these hazards to human health and the environment;
- Restrict Site access to limit the potential for releases and endangerment prior to completing a time-critical removal action; and
- Remove all uncontrolled wastes from the Site to reduce the potential for a release of hazardous materials that could result in, but not be limited to, any or all of the following impacts:
    - Potential exposure of human and animal populations and the sensitive ecosystem of the Ottawa River to Site contaminants;
    - Potential for fire or explosion from ignitable liquids stored in drums and hazardous electrical transmission; and
    - Potential release of Site-related hazardous materials to the storm sewer and the Ottawa River.

On September 10, 2008, U.S. EPA issued an Action Memorandum for a time-critical removal action at the Site to mitigate the imminent and substantial threats to public health, welfare, and the environment, based on the factors set forth in Section 300.415(b)(2) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) as amended (Title 40 of the *Code of Federal Regulations* [40 CFR], Part 300.

3. SUMMARY OF REMOVAL ACTION ACTIVITIES

On October 21, 2008, U.S. EPA initiated removal action activities at the Site under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) as amended (Title 42 of the *United States* Code, Section 9606[a]). U.S. EPA OSC Jon Gulch, WESTON START member Sean Kane, and the ERRS contractor mobilized to the Site. Appendix A provides photographic documentation of the Site conditions and removal action activities.

Removal action activities were conducted from October 21, 2008, to June 15, 2009, to mitigate hazards that posed an imminent and substantial threat to public health, welfare, and the environment. Removal action activities included Site reconnaissance and recovery activities, sampling, hazard categorization (HAZCAT) activities, and the transportation and disposal of waste materials.

The ERRS contractor conducted the removal of hazardous wastes from the Site; coordinated the transportation and disposal of all hazardous and non-hazardous wastes; and arranged for Site security, utilities, and the equipment necessary to complete the removal action activities.

WESTON START performed general health and safety oversight, documented Site conditions and removal action activities, conducted air monitoring within an established hot zone, conducted perimeter air monitoring, conducted periodic and supplemental air monitoring, and provided assistance with project cost tracking.

The sections below discuss specific activities conducted during the removal action, including general site cleanup, site reconnaissance and recovery activities, waste container sampling, HAZCAT, and mercury removal activities.

3.1 GENERAL SITE CLEANUP

During the removal site assessment, approximately 80 percent of the warehouse building was inaccessible due to a large amount of bulk debris. The building basement was also inaccessible during the site assessment. From October 21, 2008, through March 3, 2009, ERRS contractors cleared out the interior of the warehouse building by removing and disposing of non-hazardous

bulk debris and temporarily removing large pieces of equipment and debris. Removed equipment and debris were staged in the fenced courtyard area east of the warehouse building (see Figure 3). These activities were required to allow safe access to portions of the building that contained extensive amounts of general debris intermingled with waste containers. A total of 25 20-cubic yard (yd^3) roll-off boxes of bulk debris were transported off-site for disposal as non-hazardous waste.

3.2 SITE RECONNAISSANCE AND RECOVERY ACTIVITIES

During site reconnaissance and recovery activities, the ERRS contractor identified hazards and collected waste containers. The ERRS contractor stabilized, segregated, and staged recovered small containers (less than or equal to 5 gallons), drums, 5-gallon pails, and 1-gallon paint cans for waste characterization, sampling, and consolidation activities. Once the reconnaissance and recovery operations were completed, the ERRS contractor completed a final reconnaissance of all areas at the Site to confirm the absence or presence of hazardous wastes.

Waste containers were found throughout the Site and primarily staged in Rooms 1 and 2 of the warehouse building and in the fenced courtyard. During the inventory of the warehouse building (including the three rooms on the first floor, the upstairs level, the basement, and the courtyard), approximately 3,307 waste containers were identified: 1,000 were small containers (less than 5 gallons); 1,281 were 5-gallon pails with a maximum 15-gallon capacity; and 1,026 were 55-gallon drums. Most waste containers contained unknown wastes, expired chemicals, and food preservatives. Most containers were deteriorating and displayed improper and inadequate labeling that did not match the actual container contents. The ERRS contractor staged, inventoried, and sampled all waste containers recovered from Rooms 1, 2, and 3 and the courtyard area. The staged wastes were then segregated based on HAZCAT results and chemical compatibilities. Following the HAZCAT activities, the ERRS contractor consolidated the wastes based on disposal categories and prepared the waste for off-site transportation and disposal by subcontractors. The ERRS contractor also removed and staged all RCRA-empty containers (40 CFR Section 261.7) for disposal.

3.3 WASTE CONTAINER SAMPLING

Once initial waste container staging and segregation activities were completed, the ERRS contactor began sampling materials from the various containers. Sampling was conducted in an established hot zone. The sampling crews used supplied air and Level B personal protective equipment (PPE). A drum sampling log was completed for each drum, pail, and container. WESTON START provided continuous perimeter, hot zone, and supplemental air monitoring during sampling activities (see Section 5.0).

The ERRS contractor logged and prepared the samples for HAZCAT activities. Once the container sampling activities were completed, the ERRS field chemist maintained the drum sampling logs for reference during HAZCAT activities.

3.4 HAZARD CHARACTERIZATION

The ERRS field chemist conducted HAZCAT activities. Once the samples were characterized, the ERRS contractor separated the drums and containers into nine compatible groups: inorganic liquids, organic liquids, flammable organic liquids, acid liquids, hazardous inorganic solids, inorganic solids, organic solids, solid organic oxidizers, and organic dyes. The ERRS crew then collected composite samples from the compatible groups. The composite samples were sent to Test America Laboratories, Inc., in North Canton, Ohio, for disposal analysis.

Once the waste streams were defined, the ERRS crew consolidated the wastes into disposal categories. Compatible wastes were bulked to eliminate partially full and deteriorated containers. RCRA-empty poly and metal drums from the bulking activities were crushed and placed in a roll-off box prior to disposal as non-hazardous waste.

3.5 MERCURY REMOVAL ACTIVITIES

On February 17, 2009, ERRS personnel identified uncontained mercury in an upstairs, three-shelf laboratory cabinet in the warehouse building. U.S. EPA mobilized a Lumex RA 915+ mercury analyzer (Lumex) to the Site to confirm that the uncontained mercury was confined to the laboratory cabinet and that the surrounding area had not been contaminated. Before the mercury removal, WESTON START conducted initial screenings using the Lumex. Mercury

vapor readings ranged from 15,000 to 50,000 micrograms per cubic meter (μg/m^3) within the breathing zone level in front of the laboratory cabinet. Readings from the wood floor in front of the cabinet ranged from 12,000 to 15,000 μg/m^3.

On February 24, 2009, the ERRS contractor removed the uncontained mercury using pipettes, HgX® powder and a mercury vacuum. Miscellaneous debris around the laboratory cabinet was placed into bags and sealed. Glassware from inside the cabinet also was bagged and sealed for later screening. After the mercury was removed, HgX® powder was applied within the cabinet and on the surrounding floor area. Post-removal mercury readings inside the laboratory cabinet ranged from 1,500 to 4,600 μg/m^3. The ERRS contractor conducted a second round of mercury removal activities using a mercury vacuum to remove remaining "micro" mercury beads and completed another application of HgX® powder. After the second round of mercury removal activities, mercury readings in the cabinet ranged from 500 to 2,000 μg/m^3. The laboratory cabinet then was wrapped in polyvinyl sheeting for disposal at an U.S. EPA-approved disposal facility along with small debris from within and in front of the cabinet. Post-removal mercury vapor readings at the floor level around the cabinet averaged around 500 μg/m^3.

4. SUMMARY OF WASTE DISPOSITION

All wastes from the Site were properly characterized, transported, and disposed of in accordance with CERCLA time-critical removal action requirements. The following sections discuss the non-hazardous and hazardous wastes removed from the Site for disposal.

4.1 NON-HAZARDOUS WASTES

The non-hazardous wastes removed from the Site for disposal included the following:

- 350 tons of construction and demolition debris
- 120 yd^3 of RCRA-regulated empty containers
- 120 yd^3 of non-hazardous inert solids, including spent PPE
- 20 tons of non-hazardous inert solids
- 258 yd^3 of non-hazardous liquid wastes including Paracril and miscellaneous concentrated syrups
- 80 yd^3 of non-hazardous solids, dyes, and floor sweepings
- 20 yd^3 of roofing tar containing non-friable asbestos

The non-hazardous wastes included construction/demolition debris, inert solids, dyes, non-hazardous liquid waste including Paracril and miscellaneous concentrated syrups, floor sweepings, roofing tar, RCRA crushed containers, and spent PPE.

4.2 HAZARDOUS WASTES

The hazardous wastes (40 CFR, Part 261, Subpart C) at the Site included the following waste codes:

- Ignitable wastes (D001)
- Corrosive wastes (D002)
- Chromium (D007)
- Lead (D008)
- Mercury (D009)
- Carbon tetrachloride (D019)
- Chloroform (D022)

- 1,2-Dichloroethane (D028)
- 1,1-Dichloroethene (D029)
- Methyl ethyl ketone, (D035)

The hazardous wastes removed from the Site for disposal included the following:

- 23,700 gallons of waste flammable liquids
- 32,000 pounds of waste flammable liquids
- 1,755 gallons of non-U.S. Department of Transportation (DOT) and non-RCRA regulated materials
- 5,700 pounds of non-DOT and non-RCRA regulated materials
- 7,000 pounds of corrosive liquids
- 220 gallons of corrosive liquids
- 200 pounds of corrosive solids
- 20 yd^3 of Paracril and floor sludge sweepings
- 4,000 pounds of liquid hazardous wastes
- 60 pounds of ammonia solutions
- 55 pounds of flammable aerosols
- 20 pounds of elemental mercury
- 80 pounds of solid toxic wastes (lead and mercury debris)
- 80 pounds of hydrofluoric acid (includes weight of over-pack drum used as secondary container)
- 20 pounds of ethylene oxide

All wastes were properly disposed of at U.S. EPA-approved disposal facilities. A detailed waste disposal summary, including waste stream, quantity, and disposal facility information is presented in Attachment B.

5. SUMMARY OF AIR MONITORING

During on-site removal action activities, WESTON START performed continuous hot zone, perimeter, and supplemental/periodic air monitoring throughout the Site. Air monitoring was conducted at three rotating stations within the warehouse building and one rotating station at the Site perimeter during all removal activities. WESTON START used the RAE Systems, Inc., AreaRAE network to conduct real-time monitoring for total VOCs, percent of the lower explosive limit (%LEL), carbon monoxide, and percent oxygen. WESTON START also conducted real-time monitoring for particulates using a DataRAM and the U.S. EPA's Rapid Assessment Tools (RAT) software during all removal action activities. Additionally, WESTON START conducted periodic monitoring for total VOCs, %LEL, carbon monoxide, and percent oxygen in and around the Site hot zone and between the continuous monitoring stations in the warehouse building using a RAE Systems, Inc., MultiRAE. When air monitoring readings exceeded the site-specific health and safety plan (HASP) action levels during removal action activities, corrective actions were taken and PPE was modified as specified in the HASP.

6. EFFECTIVENESS OF REMOVAL ACTIVITIES

The U.S. EPA and its contractors were able to safely mitigate all Site-related hazards that posed an imminent and substantial endangerment to public health, welfare, and the environment. All collected and staged wastes were removed from the Site and transported to U.S. EPA-approved disposal facilities. Based on the removal action activities performed, the Site no longer poses an imminent or substantial threat to human health, human welfare, and the environment.

7. DIFFICULTIES ENCOUNTERED

In June 2008 during the removal site assessment, at least 80 percent of the warehouse building was inaccessible due to extremely large quantities of debris and solid waste, which prevented a detailed inventory of potentially hazardous materials and allowed no safe access to the basement. At the time of the site assessment, U.S. EPA and WESTON START estimated that the warehouse building contained over 2,000 drums, 800 of which contained unknown materials. As discussed in Section 3.1, from October 21, 2008, through March 3, 2009, ERRS personnel cleared out the interior of the warehouse building by disposing of non-hazardous construction and demolition debris. This activity allowed the project team to access all areas of the building and safely identify hazardous materials intermingled with the general debris. Due to the necessary process of removing bulk debris from the warehouse building for disposal, limited space was available on the property for temporarily staging wastes prior to disposal and setting up site trailers. Access was granted to an adjoining vacant lot north of the warehouse building that is owned by a neighboring commercial business. The additional space was necessary to establish site infrastructure and conduct the time-critical removal. All wastes temporarily staged outside on the Site property and the adjoining lot were placed on plastic or put into new, clean drums. All wastes were removed for proper disposal and no wastes, plastic sheeting, drums, or visible signs of contamination were left in the temporary staging areas.

On November 18, 2008, U.S. EPA, the ERRS contractor, and WESTON START inspected the basement of the warehouse building, which was previously inaccessible due to the haphazard placement of general debris. Several hundred additional small containers were discovered throughout stockpiled debris in the basement.

From March 4 through April 17, 2009, U.S. EPA and its contractors searched through the general debris in the basement. A "pulley-sled" system was constructed on the basement stairs to relay materials efficiently to the first floor of the warehouse building. As discussed in Section 4.1, a total of 350 tons of non-hazardous construction and demolition debris was removed from the building. This waste was transported to Vienna Junction Landfill in Erie, Michigan, for disposal.

As discussed in Section 3.5, on February 17, 2009, ERRS personnel identified uncontained mercury in an upstairs 3-shelf laboratory cabinet. On February 24, 2009, ERRS removed the uncontained mercury, debris around the laboratory cabinet, glassware from inside the cabinet, and the laboratory cabinet for disposal at an U.S. EPA-approved disposal facility.

8. CONCLUSIONS AND RECOMMENDATIONS

This section discusses conclusions based on the fund lead removal action and recommendations for future Site activities.

8.1 CONCLUSIONS

On October 21, 2008, U.S. EPA OSC Gulch, WESTON START, and the ERRS contractor mobilized to the Site to begin removal action activities. During removal action activities, WESTON START documented the removal of approximately 3,307 total containers: 1,000 small containers; 1,281 5-gallon pails; and 1,026 55-gallon drums. Hazardous and non-hazardous wastes removed from the Site are listed below.

NON-HAZARDOUS WASTES

- 350 tons of construction and demolition debris
- 120 yd^3 of RCRA-regulated empty containers
- 120 yd^3 of non-hazardous inert solids, including spent PPE
- 20 tons of non-hazardous inert solids
- 258 yd^3 of non-hazardous liquid wastes including Paracril and miscellaneous concentrated syrups
- 80 yd^3 of non-hazardous solids, dyes, and floor sweepings
- 20 yd^3 of roofing tar containing non-friable asbestos

HAZARDOUS WASTES

- 23,700 gallons of waste flammable liquids
- 32,000 pounds of waste flammable liquids
- 1,755 gallons of non- DOT and non-RCRA regulated materials
- 5,700 pounds of non-DOT and non-RCRA regulated materials
- 7,000 pounds of corrosive liquids
- 220 gallons of corrosive liquids
- 200 pounds of corrosive solids
- 20 yd^3 of Paracril and floor sludge sweepings
- 4,000 pounds of liquid hazardous wastes

- 60 pounds of ammonia solutions
- 55 pounds of flammable aerosols
- 20 pounds of elemental mercury
- 80 pounds of solid toxic wastes (lead and mercury debris)
- 80 pounds of hydrofluoric acid (includes weight of over-pack drum used as secondary container)
- 20 pounds of ethylene oxide

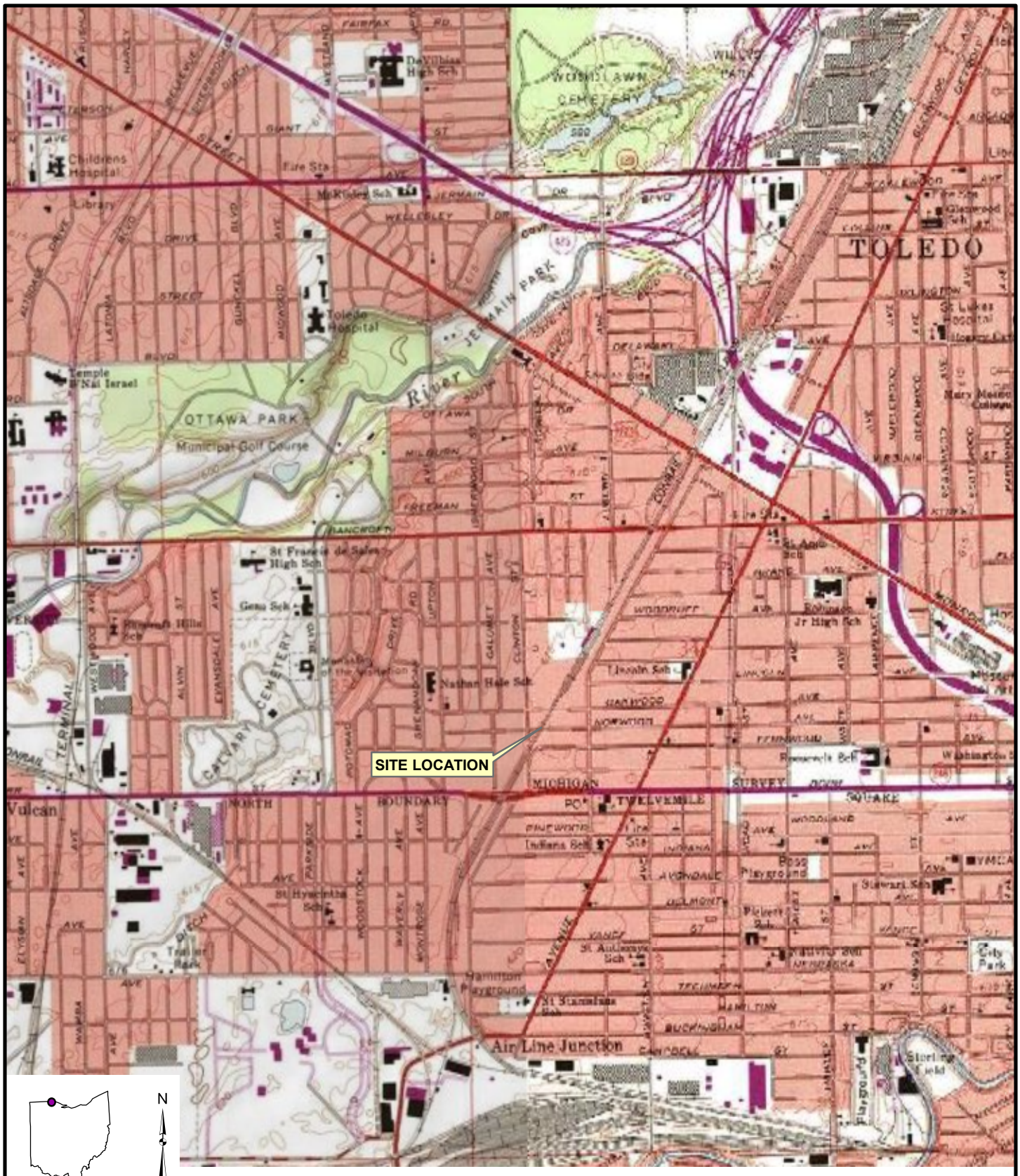
All wastes collected during the removal action activities were transported off site to U.S.EPA-approved disposal facilities.

On June 15, 2009, removal activities were completed and OSC Gulch, WESTON START, and the ERRS contractor demobilized from the Site. Based on the removal action activities performed, the Site no longer poses an imminent or substantial threat to human health, welfare, and the environment.

8.2 RECOMMENDATIONS

Site access should continue to be restricted to prevent future employees and vagrants from potential physical hazards posed by unsafe conditions within the warehouse building, including holes in the floor and miscellaneous bulk debris. At this time, based on the historical Site use, it is recommended that property use and zoning remain industrial. If other Site uses are considered, soil and groundwater sampling should be conducted to properly characterize the Site and determine if the Site is viable for other uses. Additionally, any future use of the property should take into account (1) the Site's history, (2) recommendations from the City of Toledo Building Inspector, (3) the Toledo Fire Department, (3) the findings discussed in this report, (4) appropriate safety protocols to protect Site users, and (5) other considerations as appropriate.

FIGURES



SOURCE: ESRI ArcGIS Map Service
NGS_Topo_US_2D

Figure 1

Prepared for:
U.S. EPA REGION V
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TDD No.: S05-0001-0809-014
DCN: 533-2A-AEYC

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Topographic Site Location Map
Norwood Industries Fund Lead Removal
1678 Norwood Ave
Toledo, Ohio 43607
January 2010

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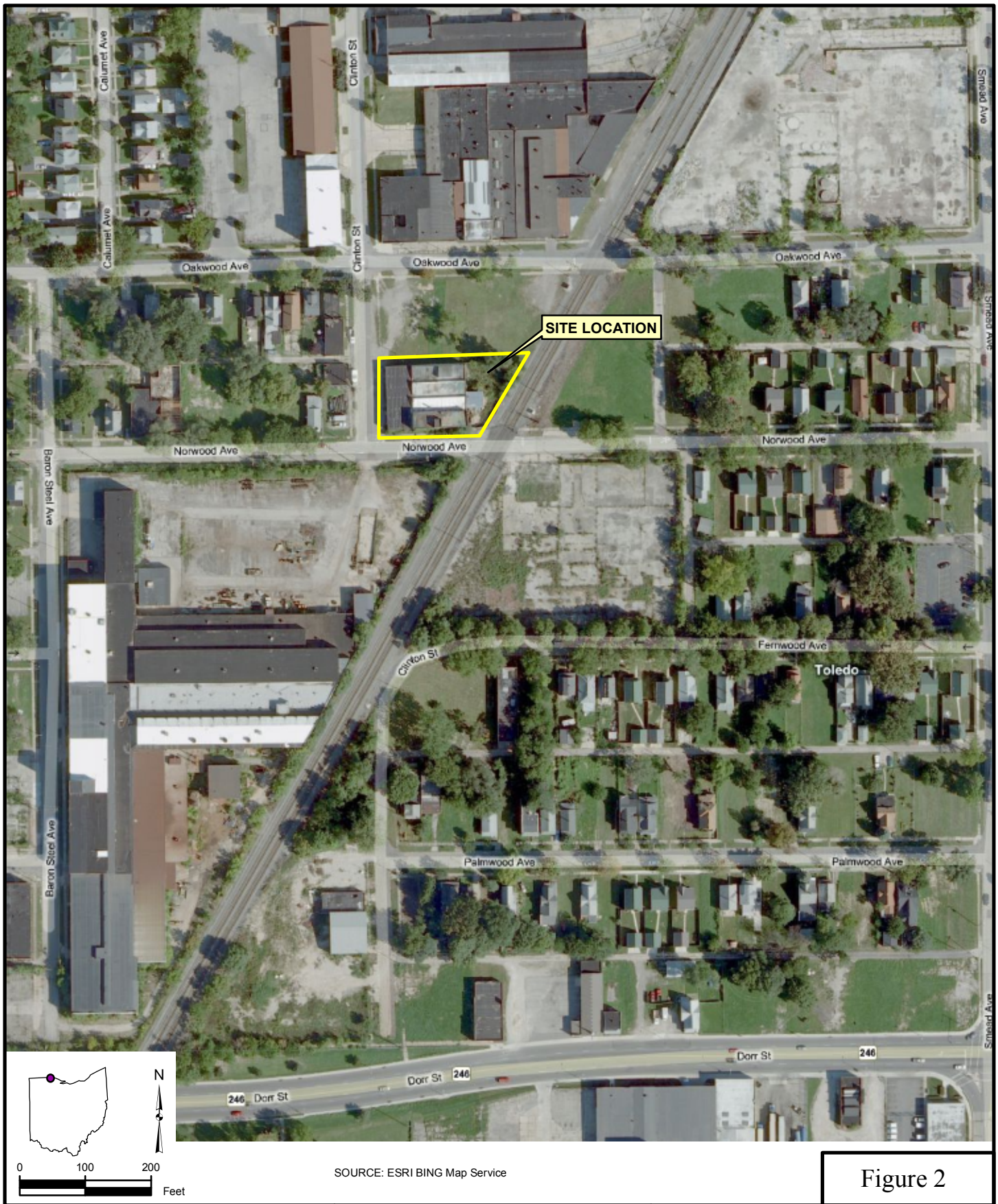

SOURCE: ESRI BING Map Service

Figure 2

Prepared for:
U.S. EPA REGION V
Contract No: EP-S5-06-04
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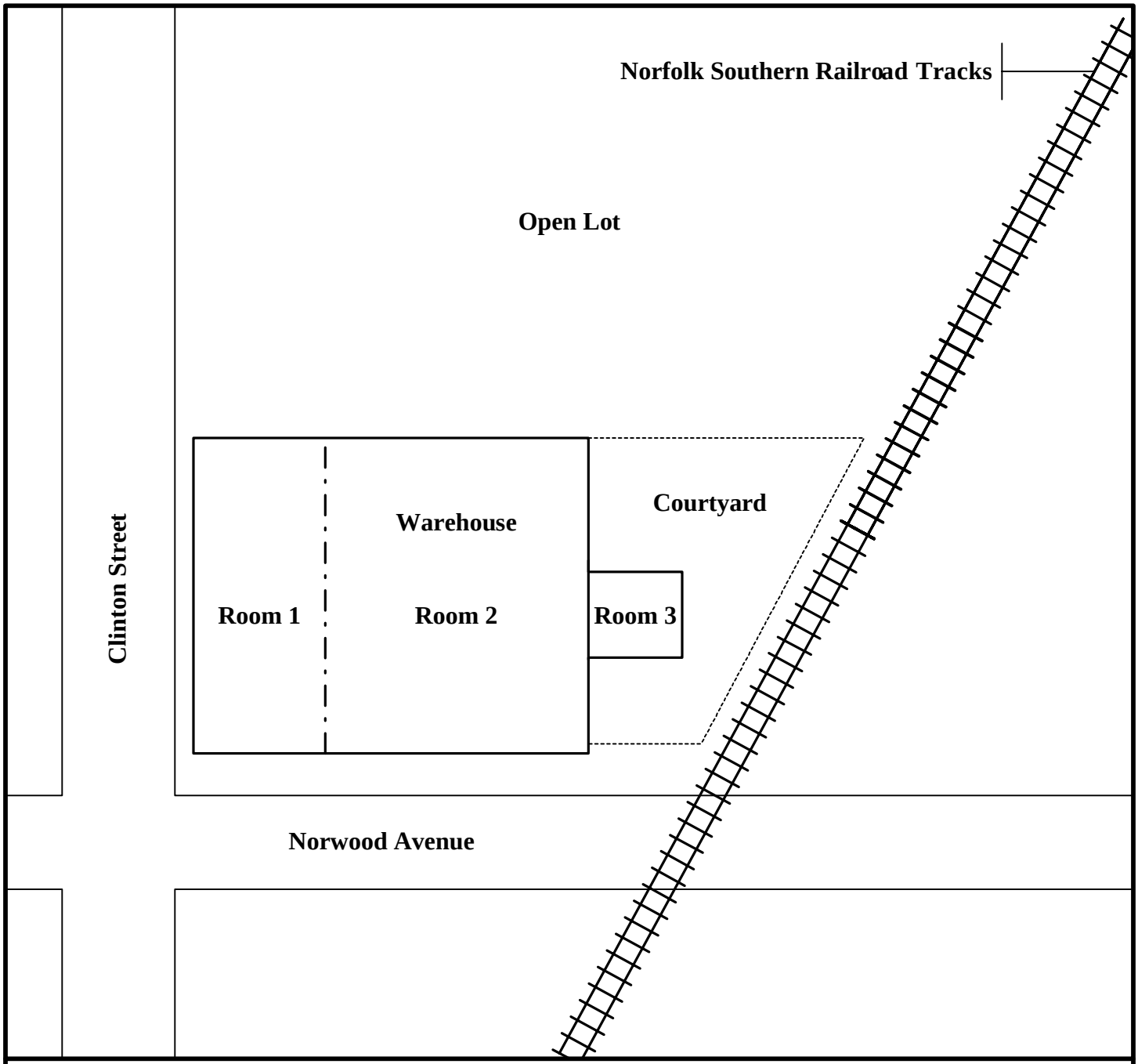
DCN: 533-2A-AEYC

Prepared by:
WESTON SOLUTIONS, INC.
7800 W. Outer Drive, Suite 200
Detroit, MI 48235

Aerial Photograph Site Location Map
Norwood Industries Fund Lead Removal
1678 Norwood Ave
Toledo, Ohio 43607
January 2010

File: D:\GIS_Projects\START\Norwood_Removal\mxds\Fig 2 Site_Aerial.mxd, 02-Feb-10 17:11, BROWNK



N

Legend

- **Structure**
- **Fence**
- **Interior Wall**
- **Railroad Tracks**

Figure 3

Prepared for:
U.S. EPA REGION V
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Site Features Map
Norwood Industries Fund Lead Removal
1678 Norwood Ave
Toledo, Ohio 43607
January 2010

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APPENDIX A
PHOTOGRAPHIC DOCUMENTATION

Site: Norwood Industries Fund Lead Removal Site
Photograph No.: 1 **Date:** January 19, 2009
Direction: West **Photographer:** Sean Kane
Subject: Uncontained Paracril "experiments" in Room 1 of warehouse building

Site: Norwood Industries Fund Lead Removal Site
Photograph No.: 2 **Date:** October 22, 2008
Direction: East **Photographer:** Sean Kane
Subject: Paracril leaking through the western foundation wall of the warehouse building

Site: Norwood Industries Fund Lead Removal Site
Photograph No.: 3 **Date:** October 23, 2008
Direction: North **Photographer:** Sean Kane
Subject: Warehouse "aisle" before general debris removal

Site: Norwood Industries Fund Lead Removal Site
Photograph No.: 4 **Date:** October 22, 2008
Direction: North **Photographer:** Sean Kane
Subject: ERRS crew disposing of non-hazardous construction and demolition debris in Level C PPE

Site: Norwood Industries Fund Lead Removal Site
Photograph No.: 5 **Date:** November 6, 2008
Direction: West **Photographer:** Sean Kane
Subject: ERRS crew sampling 5-gallon containers in Level B PPE

Site: Norwood Industries Fund Lead Removal Site
Photograph No.: 6 **Date:** November 6, 2008
Direction: Northeast **Photographer:** Sean Kane
Subject: AreaRAE perimeter air monitoring location

Site: Norwood Industries Fund Lead Removal Site
Photograph No.: 5 **Date:** February 11, 2009
Direction: West **Photographer:** Sean Kane
Subject: Central portion of the warehouse building used to inventory and sample drums and containers

Site: Norwood Industries Fund Lead Removal Site
Photograph No.: 6 **Date:** June 15th, 2009
Direction: South **Photographer:** Sean Kane
Subject: Central portion of warehouse building after the removal of hazardous materials

Site: Norwood Industries Fund Lead Removal Site
Photograph No.: 7 **Date:** February 18, 2009
Direction: West **Photographer:** Sean Kane
Subject: 1-yd^3 boxes containing floor sweepings and Paracril debris pending disposal

Site: Norwood Industries Fund Lead Removal Site
Photograph No.: 8 **Date:** April 06, 2009
Direction: North **Photographer:** Sean Kane
Subject: Compatible solids bulked into lined 1-yd^3 boxes

Site: Norwood Industries Fund Lead Removal Site
Photograph No.: 9 **Date:** July 16, 2008
Direction: West **Photographer:** Sean Kane
Subject: ERRS crew loading a semi-trailer with 1-yd^3 boxes for disposal

Site: Norwood Industries Fund Lead Removal Site
Photograph No.: 10 **Date:** February 18, 2009
Direction: North **Photographer:** Sean Kane
Subject: Uncontained elemental mercury in laboratory cabinet

Site: Norwood Industries Fund Lead Removal Site
Photograph No.: 11 **Date:** February 24, 2009
Direction: North **Photographer:** Sean Kane
Subject: ERRS crew removing uncontained elemental mercury using pipettes

Site: Norwood Industries Fund Lead Removal Site
Photograph No.: 12 **Date:** February 25, 2009
Direction: East **Photographer:** Sean Kane
Subject: Laboratory cabinet and surrounding area after mercury removal activities

Site: Norwood Industries Fund Lead Removal Site
Photograph No.: 13 **Date:** February 19, 2009
Direction: West **Photographer:** Sean Kane
Subject: Eastern portion of the basement before removal activities

Site: Norwood Industries Fund Lead Removal Site
Photograph No.: 14 **Date:** February 25, 2009
Direction: West **Photographer:** Sean Kane
Subject: Eastern portion of the basement used for staging and sampling containers

Site: Norwood Industries Fund Lead Removal Site
Photograph No.: 15 **Date:** April 17, 2009
Direction: West **Photographer:** Sean Kane
Subject: Eastern portion of the basement after hazardous materials removal activities

Site: Norwood Industries Fund Lead Removal Site
Photograph No.: 18 **Date:** February 19, 2009
Direction: Northeast **Photographer:** Sean Kane
Subject: Staged over-pack drums in the fenced courtyard pending disposal

Site: Norwood Industries Fund Lead Removal Site
Photograph No.: 19 **Date:** April 07, 2009
Direction: North **Photographer:** Sean Kane
Subject: ERRS crew loading a 20-yd^3 roll-off box with over-pack drums

Site: Norwood Industries Fund Lead Removal Site
Photograph No.: 20 **Date:** April 09, 2009
Direction: West **Photographer:** Sean Kane
Subject: ERRS crew loading over-pack drums onto a semi trailer for disposal

APPENDIX B
HAZARDOUS WASTE DISPOSAL SUMMARY

Hazardous Waste Disposal Summary
Norwood Industries Fund Lead Removal
Toledo, Lucas County, Ohio

WASTE STREAM	WASTE CODE(S)	VOLUME	DATE	MANIFEST NO.	DISPOSAL FACILITY
FLAMMABLE LIQUID (Methyl Ethyl Ketone, Xylene)	D001/D007/D008/D022 D029/D035	5,305 Gallons	4/9/2009	005293788 JJK	Petro-Chem Processing Group 421 Lycaste Street Detroit, MI 48214
FLAMMABLE LIQUID (Methyl Ethyl Ketone, Xylene)	D001/D007/D008/D022 D029/D035	5,100 Gallons	4/14/2009	005056466 JJK	
FLAMMABLE LIQUID (Methyl Ethyl Ketone, Xylene)	D001/D007/D008/D022 D029/D035	3,750 Gallons	4/16/2009	005056467 JJK	
FLAMMABLE LIQUID (Methyl Ethyl Ketone) (Hydrochloric Acid)	D001/D002/D008/D022 D029/D035	250 Gallons	4/16/2009	005056467 JJK	
FLAMMABLE LIQUID (Methyl Ethyl Ketone, Xylene)	D001/D007/D008/D022 D029/D035	3,000 Gallons	4/16/2009	005056468 JJK	
FLAMMABLE LIQUID (Methyl Ethyl Ketone, Xylene)	D001/D007/D008/D022 D029/D035	3,050 Gallons	6/9/2009	005295865 JJK	
FLAMMABLE LIQUID (Methyl Ethyl Ketone, Xylene)	D001/D007/D008/D022 D029/D035	3,245 Gallons	6/10/2009	005295866 JJK	
FLAMMABLE LIQUID (Methyl Ethyl Ketone, Xylene)	D001/D007/D008/D022 D029/D035	5,800 Pounds	6/11/2009	005294740 JJK	
FLAMMABLE LIQUID, CORROSIVE (1,1-Dichloroethane, Chloroform)	D001/D002/D022/D028 D035	100 Pounds	6/12/2009	005294848 JJK	
FLAMMABLE LIQUID, TOXIC (Chromium, 1,2-Dichloroethane)	D001/D019/D022/D028 D035	2,000 Pounds	6/12/2009	005294848 JJK	
FLAMMABLE LIQUID (Methyl Ethyl Ketone, Xylene)	D001/D007/D008/D022 D029/D035	24,100 Pounds	6/12/2009	005294848 JJK	
CORROSIVE LIQUID (Hydrochloric Acid) (Sulfuric Acid)	D002	220 Gallons	6/10/2009	005295866 JJK	
CORROSIVE LIQUID (Hydrochloric Acid) (Sulfuric Acid)	D002	2,400 Pounds	6/11/2009	005294740 JJK	
CORROSIVE LIQUID (Sodium Hydroxide)	D002	1,200 Pounds	6/11/2009	005294740 JJK	
CORROSIVE LIQUID (Chromic Acid)	D002	400 Pounds	6/11/2009	005294740 JJK	
CORROSIVE LIQUID (Hydrochloric Acid) (Sulfuric Acid)	D002	3,000 Pounds	6/12/2009	005294848 JJK	
CORROSIVE SOLID (Sodium Hydroxide)	D002	200 Pounds	6/11/2009	005294740 JJK	
HAZARDOUS LIQUID (1,2-Dichloroethane)	D028	3,700 Pounds	6/11/2009	005294740 JJK	
HAZARDOUS LIQUID (1,2-Dichloroethane)	D028	300 Pounds	6/12/2009	005294848 JJK	
WASTE MERCURY	D009	20 Pounds	6/12/2009	005294848 JJK	
WASTE AEROSOLS	D001	55 Pounds	6/12/2009	005294848 JJK	
WASTE TOXIC SOLID (Lead, Mercury)	D008/D009	80 Pounds	6/12/2009	005294848 JJK	
WASTE HYDROFLUORIC ACID	D002	80 Pounds	6/12/2009	005294848 JJK	
WASTE ETHYLENE OXIDE "Toxic" "Inhalation Zone D"	D001	20 Pounds	6/12/2009	005294848 JJK	
AMMONIA SOLUTIONS (Ammonia)	Not applicable	60 Pounds	6/12/2009	005294848 JJK	